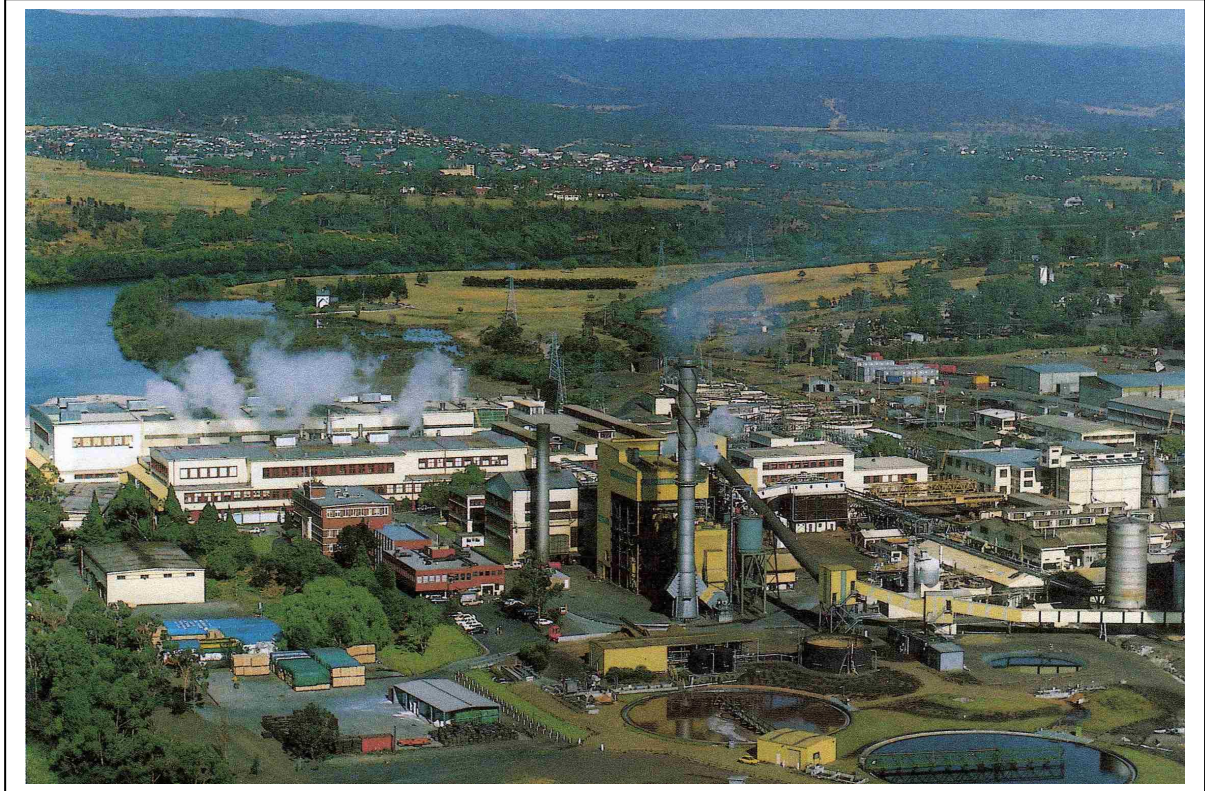


BOYER NEWSPRINT MILL



CEREMONY REPORT

on the presentation of an

ENGINEERING HERITAGE NATIONAL LANDMARK

on 17 November 2010

**Prepared by
Engineering Heritage Tasmania**

March 2011

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1. Introduction

About 75 guests attended a ceremony on 17 November at the Boyer Mill on the Derwent River 30 km from Hobart, where the Governor of Tasmania unveiled a marker and interpretation panel, awarding Engineering Heritage National Landmark status to the Boyer Mill.

While international experts had advised that Australian hardwoods would not be suitable for papermaking, due to their inherently short fibres, two young Australian scientists, Lou Benjamin and John Somerville, persevered with their work and established a pilot plant at Kermadie in the Huon Valley. By 1926 this experimental work had produced sheets of paper that could not be distinguished from “real” imported newsprint.

In 1934 at Ocean Falls Mills in British Columbia, Canada, Benjamin and staff carried out a large mill-scale test, using 1000 tons of Tasmanian eucalypt. On arrival some logs were lost when the wharfies tossed them overboard expecting them to float, and some of the pulp from Tasmania was stained with coal dust and rust. However the trial was successful in so far as the problems of using this wood for making newsprint were sufficiently resolved to commence the design of a pulp and paper mill.

The Boyer Mill was established by a consortium of Australian newspaper publishers. The Tasmanian Government supported the project by providing a large timber concession area in the Derwent Valley.

Canadian Engineer Percy Sandwell led the design team and supervised construction. While the paper machine and boilers were imported, 65% of the machinery and equipment was manufactured in Australia. Sadly Percy Sandwell died eight days before the first newsprint was produced.

The Mill produced its first newsprint in 1941, averting a shortage of newsprint during World War II. It was the first paper mill in the world to make newsprint from hardwood fibre.

The Heritage Recognition Ceremony was held in the Mill cafeteria. Speaking first, the Governor outlined the 20 years of research and trials before the project was launched. John Laughler described the construction of the Mill and subsequent developments. National President Doug Hargreaves outlined EA's Heritage Recognition Program and presented the Marker. Mill General Manager Rod Bender accepted the marker.

Significant segments of Mill machinery had been used to construct a stand to display the Marker and the interim Interpretation Panel for the ceremony. A different panel is being considered for permanent display with the Marker beside the visitors' car park at the Mill entrance.

The miniature paper making machine used for the trials at Kermadie was on display at the ceremony. It was manufactured in 1908 and loaned by the CSIRO for the occasion. Tours of the Mill were held before the ceremony.

2. Invitation



ENGINEERS
AUSTRALIA
Tasmania Division

Grant Atherton
President, Tasmania Division,
Engineers Australia
&
Rod Bender
General Manager
Norske Skog Boyer Mill

cordially invite

Mr & Mrs Jo Blow

to attend a Ceremony at the Boyer Mill Site
Boyer

on 17th November, 2010 at 3.00pm

to celebrate the unveiling of an

Engineering Heritage National Landmark

by His Excellency the Hon. Peter Underwood AC
Governor of Tasmania

Site tours of the Mill will commence at 1.30pm and 2pm
followed by the ceremony and light refreshments

RSVP to Anne Rosser
by Tuesday 4th November, 2010
Tel: (03) 6261 0201
anne.rosser@norskeskog.com

Information for Attendees

Format for Ceremony & Site Tour

Wednesday 17th November, 2010

Ceremony

The ceremony will be held at the Boyer Mill Site, Boyer Road, Boyer starting at 3 00pm. Attendees are required to be seated by 2.55pm sharp, ready for the arrival of the Governor, The Hon Peter Underwood at 3.00pm.

Parking will be available in the car park at the entrance of the Mill, (follow the signs).

The schedule is:

- 1.30pm Mill site tour (longer version)
- 2.00pm Mill site tour (shorter version)
- 3.00pm Governor arrives - unveiling Ceremony commences
- 3.30 pm Light refreshments
- 4.00 pm Conclusion

Site tours

- 1.30pm Longer version – see tour map attached
- 2.00pm Shorter version – see tour map attached

Comfortable, closed toe shoes, sun hats and umbrellas are recommended.

Note:

When you RSVP, please indicate if you are doing one of the tours.

Enclosures:

- How to get to the Boyer Mill
- Tour maps (long & short version)
- Safety Induction Booklet

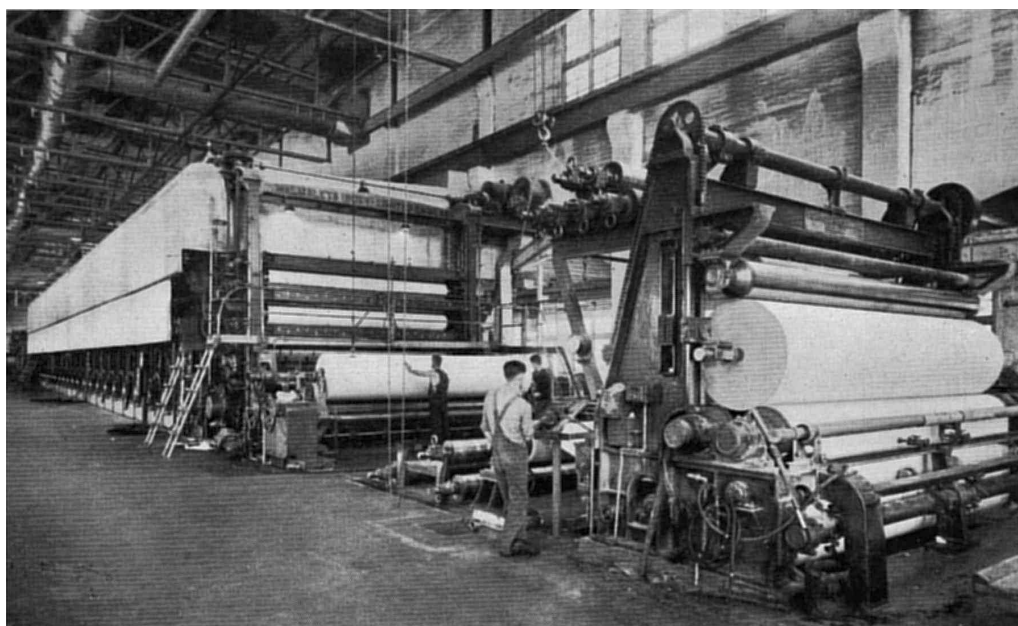
Please note: The Boyer Mill is approximately a 45 minute drive from Hobart

3. Souvenir Program

Program Page 1



**Official Ceremony
for the presentation of an
ENGINEERING HERITAGE
NATIONAL LANDMARK
for the
BOYER MILL
on 17th November 2010**



No 1 Paper Machine, 1941

A BRIEF HISTORY

In 1915 the Tasmanian Government was advised by US consulting engineer Henry Surface that there was little prospect of making paper from hardwood. Two events encouraged continuation of research by Louis Benjamin and John Somerville: there was a severe shortage of paper in World War I, and pulping tests on eucalyptus globulus in France were encouraging.

In 1926, Benjamin produced sheets “as good as imported newsprint”. A pilot plant was built at Kermandie in Tasmania's Huon Valley using eucalyptus regnans (swamp gum).

In 1932, four Directors of the Herald & Weekly Times formed the Derwent Valley Paper Company Pty Ltd and were granted a 300,000 acre timber concession by the Tasmanian Government.

Benjamin and his staff carried out a mill-scale test in Canada using Tasmanian eucalypt, a trial which convinced them that making newsprint from this wood was achievable. The strong desire of newspaper publishers and the Commonwealth and Tasmanian Governments to have a newsprint industry in Australia had encouraged these efforts. Australian Newsprint Mills Pty Ltd was formalised in 1938 and mill construction began on the 56 acre site at Boyer.

ANM was the first mill in the world to produce newsprint from eucalypt hardwood. Percy Sandwell, a Consulting Engineer of Vancouver Canada was appointed Chief Engineer of ANM in 1938. Known as “Old Dick” he was the lead designer and supervised construction of the mill. Unfortunately he died in February 1941, eight days before paper was produced at the mill.

Main original process components were:

- Forestry operations & rail transport based at Karanja
- Log handling, saw mill and billet production at Boyer
- Six, two-pocket Great Northern grinders, each pair driven by a 3,600 hp motor.
- No 1 Paper Machine, using 75% of groundwood pulp and 25% of imported hemlock (softwood) sulphite pulp.

Support services components were:

- Lawitta Pumping Station, 6 km pipeline, Water Treatment Plant
- Zinc Hydrosulphite Plant for bleaching groundwood pulp
- Hydro-electric substation supplying 20 MW.
- Boiler house burning low grade coal, wood chips and saw dust.
- Rail transport to the Port of Hobart.

The first newsprint was produced on 22 February 1941. The mill capacity was 100 tons/day; 20,150 tons in the first year.

**PROGRAM FOR THE
HERITAGE RECOGNITION CEREMONY**

at the Boyer Mill, Boyer
on Wednesday 17th November 2010

Master of Ceremonies

Mr Bruce Cole, FIEAust CPEng(rtd)
Chair, Engineering Heritage Tasmania

Address

His Excellency The Hon Peter Underwood AC
The Governor of Tasmania

Building the Boyer Mill

Mr John Laughher
Strategy & Development Manager

Presentation of the National Landmark

Professor Doug Hargreaves FIEAust EngExec
National President, Engineers Australia

Unveiling the National Landmark

Acceptance of National Landmark

Mr Rod Bender
General Manager Boyer Mill

Conclusion

Mr Bruce Cole

Engineering Heritage Assessment

The Boyer Mill was awarded an Engineering Heritage National Landmark for the following reasons:

- It was the first mill in the world to successfully produce newsprint from hardwood fibre.
- The pulping process was based on Australian research, experiments and trials.
- It averted a shortage of newsprint during World War II.
- It established a new industry using Tasmania's eucalyptus timber.
- While the paper machine and boilers were imported, 65% of the plant and equipment was made in Australia.
- When there was a critical shortage of shipping to bring coal to Tasmania, ANM pioneered the use of high ash content Tasmanian coal in its boilers and transferred the technology to other Tasmania industries during World War II.
- The Mill has been instrumental in the development of improved recreational, sporting, educational and medical services for the New Norfolk community.
- The company has been a leading player in sustainable forest management in southern Tasmania.
- The Mill has prospered for 70 years through continuous improvement on all fronts.

Engineering Heritage Recognition Program

The erection of markers attracts public attention to important historic engineering works and sites. A marker is awarded only after the preparation of a detailed nomination and assessment by a national committee.

Engineering icons which have received National Landmarks include the Sydney Harbour Bridge, the Goldfields Water Supply Scheme in Western Australia and the Snowy Mountains Scheme. Australia-wide, over 140 works of significance have been recognised.

Here in Tasmania, National Landmarks have been awarded to: Waddamana A Power Station 1916 (now a museum), Cethana Dam 1971, Gordon Dam 1986 and the Ross Bridge 1836.

Engineering Heritage Markers have been awarded to the Richmond Bridge 1825, the Evandale-Launceston Water Supply Scheme 1836, the World's Oldest McNaught Beam Engine 1854 (outside the TAFE College in Hobart), Launceston Water Supply 1857, Kings Bridge 1864, the Tasmania Gold Mine 1877, Duck Reach Power Scheme 1895, Lake Margaret Power Scheme 1914, Vincents Rivulet Bridge 1932, the Tarraleah Power Development 1938 and six other major dams (Catagunya, Crotty, Devils Gate, Laughing Jack, Miena No 2 and Scotts Peak).

4. The Award Ceremony

4.1 Master of Ceremony's notes

OPENING

Would you please check that your mobile phones are turned off.

Your Excellency, Distinguished Guests, Ladies and Gentlemen.

At the start of this ceremony, I would like to acknowledge the traditional owners of this land, past and present.

My name is Bruce Cole and I am the Chairman of Engineering Heritage Tasmania which is a group within Engineers Australia with a special interest in heritage matters. We run the heritage recognition program, we have an oral history program and we arrange periodic lectures on heritage topics.

On behalf of Engineers Australia and the Boyer Mill, I welcome you all, and in particular

- Your Excellency
- Professor Doug Hargreaves, our National President
- Grant Atherton, the President of the Tasmania Division of EA
- Owen Peake, the National Chair of Engineering Heritage Australia, who has come down from Melbourne.
- Councillor Judy Bromfield, representing the Derwent Valley Council.
- Jim and Ken Hughes, the sons of one of Boyer's original engineers. Jim is a local but Ken has flown down from Canberra for this occasion.
- Finally the former and present employees of the Mill.

Those of you who have toured the Mill will appreciate all the complicated machinery, operations and services which go into making 800 tonnes of quality newsprint every day.

Now let us make a start on this Heritage Recognition Ceremony. My task is to introduce the speakers listed in your souvenir program.

INTRODUCE THE GOVERNOR

Our first speaker, His Excellency the Honourable Peter Underwood, the Governor of Tasmania, needs no introduction. He welcomed a host of people to Government House open day last Sunday. He is an enthusiastic Tasmanian and I invite him to address you about the events leading up to the construction of the Boyer Mill.

INTRODUCE JOHN LAUGHER

Thank you Your Excellency

John Laughler is a long term Boyer employee, currently Strategy & Development Manager but, more importantly today, a man with a keen interest in the history and heritage of this Mill. He contributed invaluable information to the nomination and has saved many historic records and artifacts which would otherwise have been lost.

John will tell us about the establishment of the original mill and outline some subsequent developments.

INTRODUCE PROFESSOR DOUG HARGREAVES

Thank you John

Professor Doug Hargreaves, the National President of Engineers Australia, has flown down from Brisbane for this ceremony. This year he has visited all the Divisions and Groups of Engineers Australia both within the country and overseas, and we appreciate his support at this and other heritage recognition ceremonies during his term of office.

Doug will tell us about Engineers Australia's Heritage Recognition Program and invite His Excellency to unveil the Marker and Interpretation Panel.

UNVEILING THE MARKER AND PANEL

INTRODUCE ROD BENDER

There will be photo opportunities after the ceremony.

Now that the Marker has been awarded, it is the responsibility of the Boyer Mill to erect the Marker and Interpretation Panel in public view, and maintain it in good condition.

Can I say that the adoption of interpretation panels is a recent innovation by Engineers Australia. The aim is to better engage the public in understanding the work of engineers. These panels are challenging to design. This one is mostly John Laughler's creation, a man of many talents.

I now call on Rod Bender, General Manager of the Mill, to accept the Marker, and to outline the current status of the Mill.

CLOSURE

Ladies and Gentlemen, in closing the ceremony, I would like to express our sincere thanks to the Boyer Mill for providing this venue, sending out the invitations, making the arrangements and providing both the tours and the afternoon tea.

We have worked closely with John Laughler and Anne Rosser, and we particularly thank them both along with the Boyer Team. We also recognise the creative talents of Wayne Carroll for his representative interpretations in creating the stand.

I now invite you to inspect the marker and the panel, to admire the Kermandie miniature paper-making machine and to partake of afternoon tea.

Thank you.

4.2 Governor's Speech

You would all have to agree that there is a certain irony in the fact that today we are here to pay tribute to an engineering development that enabled the Mill to be built here and to be the first in the world to make newsprint from hardwoods, and the fact that a year ago to the very day I was here at Norske Skog launching the \$50m softwood conversion plant that enabled the Mill to abandon its use of Tasmanian hardwoods and rely exclusively on the use of plantationgrown softwoods to make newsprint!

How things have changed since the beginning of the last century. Shortages

of supply of paper during World War I saw a need for Australia to establish its own paper mills, but the short-fibred hardwood was not satisfactory for making paper. In 1915 the Tasmanian government was given expert advice that it was not feasible to manufacture pulp for resale out of Tasmanian hardwood.

However it would appear that chemist and technologist Lou Benjamin saw that advice as a challenge and an opportunity. At the age of 26 he was introduced to the field of wood pulping when he was employed at the newly formed Institute of Science and Industry – the forerunner of the CSIRO. There he was put in charge of eucalypt wood pulp and cellulose research. Enter a miniature model paper-making machine that was made in England way back in 1906. This machine ended up in Perth WA and in 1920 Benjamin and his colleagues used it to produce the first continuous sheet of newsprint made entirely from Kauri hardwood and this result spurred on the research.

But the road was long and hard. In 1924, four years after the model had produced the first continuous sheet of newsprint from hardwood, Benjamin and his colleague David Avery tried to make newsprint in commercial quantities from eucalypts at a mill in Holland, but the project was a failure. Undeterred, Benjamin and Avery continued their research, experimenting with the soda, sulphite and mechanical process of pulping eucalypt woods. At this stage the English model paper-making machine re-entered the story. It was taken to and set up at Kermadie here in Tasmania in 1928 and lo and behold, it produced a continuous sheet of newsprint from Tasmanian Eucalypts. Benjamin and his colleagues now realised that success was getting very close. It got even closer when a subsequent successful trial at a small mill near Geelong demonstrated that the soda process was suitable for making printing papers.

In 1932 Benjamin fell in with the late Sir Keith Murdoch who then owned a company called Derwent Valley Paper Co Pty Ltd. This company later formed Australian Newsprint Mills Pty Ltd. As the manager of the Derwent Valley Paper Company, Benjamin and his fellow researchers conducted a test run at a mill in Canada with a batch of 1000 tons of eucalypt logs sent from Tasmania. This trial run solved most of the problems of making newsprint from hardwood and demonstrated that large scale production was possible.

The final goal was close to being achieved. In 1935 the Tasmanian Government passed legislation to give ANM a guaranteed supply of logs from the Florentine (there were no protests then) and in 1938 work began on the construction of the Boyer Mill. In 1941 it began producing paper made from hardwood at the rate of 27,000 tons per year, on a machine that was designed in Canada and built in England. On this site ANM was the first newsprint producer in the Southern Hemisphere and the first in the world to make newsprint with fibres ground from hard wood.

It is a fascinating story and as a coda to it, the 1906 model paper-making machine makes a final entrance. It is right here on this site today and still making newsprint.

4.3 John Laugher's speech

The development of what began as Australian Newsprint Mills and the "Building of the Boyer Mill" along with the associated infrastructure and forestry operations, is indeed a series of remarkable stories, stories of pioneering development, of innovation, of dogged determination and self reliance and of incredible teamwork and comradeship

from talented people with a shared value for community and the sustainability of their activities.

Thank you Your Excellency for reminding us all of the period before construction and the enormity of that 25 year period of persistence, and vision and of the courage displayed by our industry forefathers.

From his Excellency's account, it's not difficult to see from where the Mills enduring spirit, stems from. and let me assure you all of its continued existence as we approach what will soon be 100 years since this industry was first envisaged.

But lets go back to the 1930s

Once a process solution had been found, the timber resources secured, the location identified and the financial backers unified, Canadian Engineer Mr Percy Sandwell came to Tasmania in 1936 to report on the engineering aspects of the venture and then returned in 1938 to supervise the construction of the plant for which he had led the design in the interim period.

£1.3 million was set aside for the construction of an envisaged first stage 100 ton per day mill which would then have the potential to proceed soon thereafter to 400 ton per day capacity. Costs increases following the outbreak of World War 2 drove the final cost of this stage £1.6 million.

Despite the challenges, building the Mill began early in 1939 with the letting of construction contracts to Hanson and Yuncken and the placement of key equipment purchase contracts. On completion of this first stage 65% of the plant and equipment had been sourced locally here in Australia with the remainder supplied from the UK, USA and Canada.

The No1 Paper Machine was constructed by Walmsley's from Lancashire and the original Boilers supplied by Babcock and Wilcox. Generally infrastructure and services were supplied within Australia and key production equipment from overseas.

Securing of the needed resources in this way not only applied to just the physical assets but so to for the people assets. Guided by overseas expert consultancy a solid core of talented local people joined the team during construction and went on contribute much to the Mill development in the ensuing formation years. Names like Hughes and Armitage were early leaders in this group, but were soon followed by a plethora of like minded men and women who later became what we now fondly regard as the first generation of "the Boyer Mill family".

As Jim Hughes (son of George) relayed to me some stories of his Dad's work experiences just yesterday, I could only conclude that these were no ordinary men and women and therefore the enduring foundations that they established were by no means accidental.

Having overseen the Mill's construction, sadly Percy Sandwell died suddenly just days before the Mill officially started up on the 22nd February 1941. His son, also Percy then took his place and stayed on as the Resident Engineer through to 1944. Perhaps this was our first father/son combination but it was only the beginning of a long line of the second generation and then a third generation of Boyer employees.

In the 40s

Due to the War the ambitious expansion plans were somewhat hampered. Consolidation of Boyer site and valuable Newsprint production were the key priorities, along

with commencement of the now legendary river transport of imported Kraft and finished Newsprint. The decade concluded with developments at Maydena and the commissioning of the new Band Mill and Splitter Mill at Boyer.

The 50s

This period heralded a return to the expansion plans and the commissioning of No2 paper machine in 1952 which expanded capacity to 100,000 tons per year. Our pioneering spirit was also to the forefront with additional boiler capacity and consolidation of techniques to utilise Tasmanian coal. In the Research field another breakthrough with the development of a semi-chemical pulping process (CCS) to utilize the regrowth eucalypt for the sustainability of our operations.

In the 60s

There was further community development (housing and community services additions), a new Boiler No4, the Chlorine Plant (for caustic and bleach liquor) and then, in 1968, the addition of No3 paper machine and all the associated supporting asset expansions. The Mill capacity could now be expanded to near 200,000 tonnes per annum

The 70s

This period brought more world firsts with the move towards Radiata plantation softwood and the building of a Thermo-Mechanical Pulp Mill (TMP), a first for the Southern Hemisphere, a world first on radiata and a lone champion for low consistency second stage refining.

In the 80s

Focus shifted to the building of the Albury Mill. This set a new benchmark in the Australian market.

Boyer soon found itself falling behind and, by the mid 80s, new investments were needed for asset replacements, quality and productivity upgrades, and restructuring to meet profitability and community expectations. What we should remember most from this decade was again the courage, the vision and the leadership displayed by the Boyer team to meet the challenge and to make the necessary decisions for change and for investment.

By the mid 90s

Boyer had exited old growth forests, closed No1 paper machine, rebuilt No2 and No3 Machines, built a new No5 boiler and a second TMP plant, installed primary effluent treatment, established a new warehouse and logistics system and introduced recycled fibre to the furnish. Along the way our owners invested more than \$AUD350 million and, with these modernisations and a skills restructuring program, reduced our direct workforce from near 1500 to around 500 employees.

Over the next 10 years

Continuous improvement saw productivity and profitability improvement year on year and the Mills output peaked at over 300,000 tonnes per annum. The Mill passed 10 million and then 11 million tonnes of production since inception and was achieving record milestones across all of its business measures.

But half way through this current decade of the new millennium, the Mill faced a new challenge, as globally the newsprint market moved from the mature to a declining stage, placing new pressure on competition and another race for survival.

But again Boyer responded with the same dogged determination, inventive spirit and the will to succeed, as is our Heritage.

Yes, we departed from our Eucalypt beginnings but, in so doing, established a new simplified and modernised newsprint platform from which to campaign for the future and to build upon the already impressive past.

So, thankyou Engineers Australia for recognising the achievements of these years and but more particularly for recognising those very many good men and women whose contributions made it all possible.

4.4 Doug Hargreaves speech

It is a pleasure to take part in this ceremony today. Unfortunately it has become too common in our throw-away society to discard things because they are old or no longer perform their original function. In doing this we risk losing what are really valuable parts of our heritage and history, and we lose sight of those to whom we owe so much.

A large number of these people are the engineers, the scientists, the innovators, the entrepreneurs, the designers, the builders, those with long-term vision and those with a passion for their community and its heritage. If we do not conserve our heritage, we and the nation will be culturally and spiritually much poorer; and we will lose the perspective of knowing where we've come from and of how we got here.

Since 1984, through their Engineering Heritage Recognition Program, the engineering heritage groups of Engineers Australia have been bringing public recognition to engineering works of historic or heritage significance and to the engineers who created them. In doing so they encourage conservation of our engineering heritage and help the community understand engineering, and the benefits it provides.

There are over 140 historic engineering works Australia-wide that have been recognised with heritage awards. These awards are not given lightly. A formal nomination is prepared to present the history of the work and its heritage significance under criteria similar to those used for listing on heritage registers around Australia. The nomination is assessed by the national panel which decides whether an award is justified. There are two levels of award. So far 48 awards have been National Landmarks and the balance are Engineering Heritage Markers.

There have been 20 awards in this State, and one of them is also on the River Derwent, that being Catagunya Dam, a prestressed concrete dam built in 1962.

Here in Tasmania there are three other **National Landmarks**:

- **Waddamana A Power Station** (1916) complete with its original turbines and generators, now a museum.
- **Cethana Dam** (1971), a 110 metre high concrete faced rockfill dam which showed the world how to build these dams for trouble-free performance.
- **Gordon Dam** (1984), a 140 metre high arch dam, the highest arch dam and the largest storage in Australia.

And today we have come to pay tribute to the **Boyer Mill**, and to recognise it as an **Engineering Heritage National Landmark**.

Construction of the Boyer Mill began in 1939 and a residential suburb for workers' families was constructed at New Norfolk. The mill opened in 1941, and ten Australian daily newspapers used Boyer newsprint, which saved Australia from a critical shortage

of newsprint when news about the war was on everyone's mind. Bushmen used crosscut saws and axes to fell timber and tractors dragged logs to sidings, where steam haulers winched logs on to rail trucks. Spur lines joined the main railway to Boyer. In 1947 the township of Maydena was built as a base for logging in the Florentine Valley. Thriving communities developed at New Norfolk and Maydena, with company-built amenities including halls, football grounds and swimming pools. The workforce included many single men, often migrants. This was an example of a truly national building activity in this small part of the world.

In your souvenir programs, you can read that it was the first mill in the world to make newsprint from hardwood fibre – from eucalyptus timber. The mill has been operating for nearly 70 years and in 2008, production exceeded 11 million tonnes.

I have much pleasure in presenting this **Engineering Heritage National Landmark** to the Boyer Mill and I invite His Excellency the Governor to join me in unveiling it.

4.5 Rod Bender's speech

Before accepting this prestigious Award, I would first like to extend thanks to all of you who have attended today's ceremony, particularly those who have travelled significant distances to be with us. We're very happy that you could share this experience with us. On behalf of Norske Skog and all Boyer Mill employees – Thanks and Welcome.

I would also like to sincerely thank Mr Bruce Cole, Chair of the Engineering Heritage Tasmania, as well as the National Heritage Committee and Engineers Australia, for their initiative and the consideration they have shown in recognising the important Heritage value of this Mill and the role it played in founding the newsprint manufacturing industry in Australia.

Bruce has worked in concert with John Laughner and others on this initiative since at least 2006, so that in itself represents a significant period of effort and as a result a valuable body of material has been collated.

Earlier we heard from His Excellency, as well as from John about the various stages of development of the Boyer Mill since its inception early last century, right through its operating history now in its 70th year.

But what about Boyer today and into the future? As His Excellency pointed out earlier, the Boyer Mill has over the past 12 months been operating on a different "platform" to that which characterised the first 68 years of operation. Having strategically transitioned the Mill away from Eucalypt fibre supply last November, we have spent the last 1 year, 1 week and 1 day and 4 hours, building on what we already knew about producing newsprint and speciality grades from virgin softwood fibres.

While I can resoundingly confirm the first 12 months of post softwood conversion operation a great success, I think it's also true that we have come to recognise we also still have a lot to learn. I think this sense that we have about the need to continue to strive to learn, must have many similarities to that which Lou Benjamin and his dedicated team of Engineers and Industrial Chemists had over 90 years ago.

Like them, and all that have participated in developing and operating the Boyer Mill since then, we will undoubtedly face both challenges as well as opportunities as we push to move the business forward. It's at this point that 'Our People' make a difference – that important 'discretionary effort', going 'above and beyond' and with that, the acceptance of real 'ownership' of the issues as well as the outcome.

I think it's this that is sometimes referred to as the "Boyer Factor", which has been regularly heard mentioned in our Sydney Office, but I know has also been discussed as far away as Oslo. Other people refer to something similar. In fact our most recently departed Regional President was heard to say "Boyer seems to have that uncanny ability to stay afloat – even when the water gets rough". To which someone much more sharp witted than I was heard to reply: "Maybe that's because we have good "Boyerancy".

We have heard others today, in particular John Laughher, mention the "Boyer Family" which is certainly something that I personally feel very strongly after 20 years working here. There is something about the place that seems to get under our skins! I think that all these things point to the single most important factor that has consistently made the difference at the Boyer Mill and that's its committed people.

In reflecting on Boyer today and into the future, despite the fact that I can't stand here and predict the structure of our future business and operations, nor announce the next wave of strategic capital programs, I can stand in front of you and confidently attest that the one thing that will continue to shape our destiny is the absolute commitment of our people.

"Our Mill, Our Future.... Our Choice"

And so it is with great pride that I accept the Engineering Heritage National Landmark Award on behalf of past and present Boyer Mill owners, the many other stakeholders who have supported our operation and, finally maybe more importantly today than ever, past and present employees.

5. Site tour arrangements

Attendees were conducted around the main features of the Mill in small groups. Both long and short tours were provided to suit the time available before the ceremony. Maps of both tours were sent out with the invitations so that invitees could state their wishes when they responded.

As the Mill operates continuously, the visitors were able to see the processes in action wherever it was safe to do so.

At the thermo-mechanical pulp plant, the management of the manufacturing process from the control room and the regular sampling, testing and recording of the pulp properties were witnessed.

The length and speed of a paper machine is always impressive. Some groups were on hand when, at the output end, the critical replacement of a full reel for an empty one took place at full machine speed.

The widespread use of steam for cooking, heating and drying was evident throughout the plant.

6. Photographs



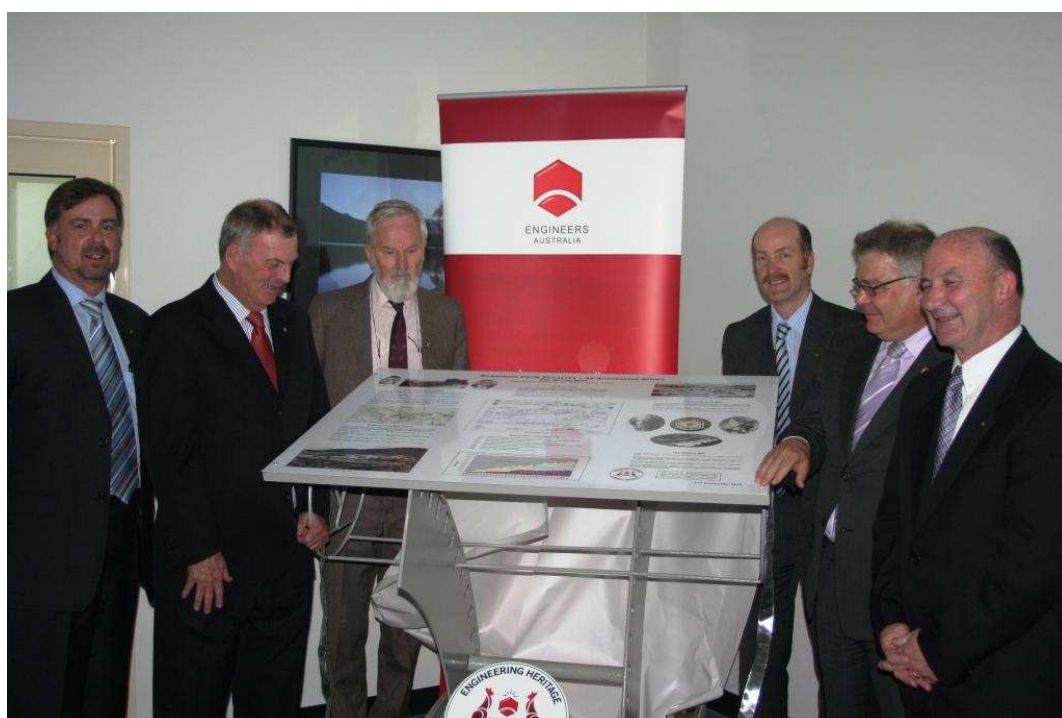
6.1 Ceremony audience



6.2 Governor of Tasmania speaking



6.3 National President Doug Hargreaves speaking



6.4 Official party inspecting the interim Interpretation Panel

L to R: Rod Bender (GM Boyer Mill); Hon Peter Underwood (Governor), Bruce Cole (Chair, EHT); Grant Atherton (Tas Division President), Doug Hargreaves (National President EA); John Laugher (Strategy & Development Manager, Boyer Mill).



6.5 Special stand made from Mill machinery segments



6.6 The EHNL Marker



6.7 Kermandie miniature paper making machine used in 1926

L to R: Rod Bender (GM Boyer Mill); Len Johnson (operator); Hon Peter Underwood (Governor), Allan Pearson (operator), holding some of the original newsprint made on the machine.

NEWSPRINT FROM EUCALYPT – AN AUSTRALIAN STORY

THE BOYER MILL

(Newsprint Maker to the Nation since 1941)



L.R. Benjamin



J.L. Somerville

Pioneering Development

Shortages of supply of paper of all descriptions during World War I turned the thoughts of Australians to the need to establish paper mills in Australia, using local raw materials. The established advice from the northern hemisphere industry experts was there was very little prospect of manufacturing satisfactory papers from short-fibred hardwoods of the Australian forests, but never the less, against this advice a research organisation established by the Commonwealth Government during WWI commenced investigations in 1918. The 2 chemists first engaged to carry out this work were Mr L.R. Benjamin (General Supt of ANM from 1938-1956) and Mr J.L. Somerville (Chief Chemist from 1938-1965). The challenges, as predicted were considerable and despite the setbacks and difficulties, their collective perseverance and vision led to the establishment of a small pilot plant at Kermadie in the Huon Valley in Southern Tasmania in 1927. From this work larger scale trials were conducted in North America in 1934. The success of these trials gave sufficient confidence for the newspaper publishers to ultimately come together and form the company Australian Newsprint Mills Limited. In 1935 the Tasmanian Parliament passed the Florentine Valley Paper Industry Act which gave the company long term rights over the forest assets of the Upper Derwent and so secured the raw material supply needed prior to commencing construction of the Boyer Mill in 1938.



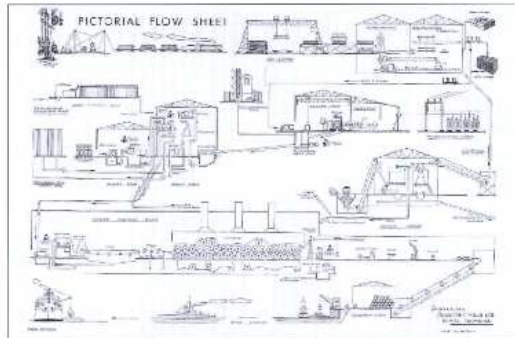
Building of the Mill

With the backing of the major newspaper publishers of Australia and the Tasmanian Government, £1,227,254 in capital had been raised. Early in 1939, building of the mill was started and the first contracts for supply of machinery signed. The builders were Hansen and Yundt Pty Ltd. of Melbourne and Hobart. The company started with a mill of 100 tons/day capacity with intention to proceed as soon as possible to a 400 tons/day capacity everything in the first plant was designed for the ultimate configuration. The mill site of 56 acres was chosen, site preparation required 5,000 MP of excavation and 9,000 MP of concrete went into the buildings. Mr Perry Standwell, a Canadian Engineer designed and supervised the building of the mill. Walmsley (Bury) Ltd. Lancashire made and installed the paper machine, Babcock & Wilcox Pty Ltd supplied the boilers, grinders, washers and other heavy machinery was built by Charles Hunsell Pty Ltd of Melbourne and Filtration & Water Softening Pty Ltd of Melbourne the water treatment plant. 65% of the plant and equipment of the mill was made in Australia. The rest, in order of quantity, from Great Britain, USA and Canada. Cost increases brought on by the outbreak of WW2 required a further issue of ordinary shares to the value of £268,237 to bring the first stage completion capital to £1,296,191. The first newsprint was produced on 22nd February, 1941 and the paper machine was soon producing 100 tons per day, just in time to avert a critical shortage of newsprint in Australia during WW2.



The Boyer Story

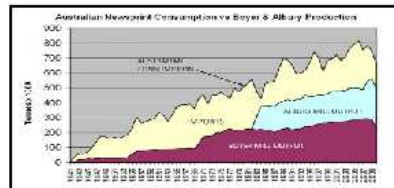
The commercial production of quality newsprint from hardwood was a great technical achievement which led to the establishment of a Mill that has the proud record of being a successful Australian enterprise financed and staffed by Australians using Australian raw materials processed by methods developed in Australia to produce newsprint able to meet world prices without tariff protection or bounty. In 1915 when Henry K. Surridge was commissioned by the Tasmanian Government to report on the potential for papermaking from the dense vast stands of eucalypt forest, and so began a journey which is characterised by the persistent endeavour and pioneering spirit displayed by those who made the unlikely possible and then the possible a reality. Since then, building value through innovation, engineering and science, having regard for a sustainable use of resources and giving priority to the development of mutually beneficial and long term relationships with customers and the community has been fundamental to this journey. To respect and draw strength from our history, in the pursuit of our future is the foundation of the Mill's culture and the common bond between those many people who now belong to the Boyer family.



Flow sheet about 1945

The Sites Development

Rolls of newsprint were transported to the Hobart Wharves by rail until 1946 when twin barges loaded on each side of a tug performed that task. In 1986 road transport replaced the barges and then in 1996 transport went back to rail with shipping from Tasmania's northern ports. A second paper machine was added in 1952 along with a new woodmill to process the old growth eucalypt logs into billets for the groundwood mill. In 1957, a new pulping process was developed to utilise younger regrowth eucalypt and expand the site capability. Again powered by local research and development, the pulp was produced by caustic impregnation of chips which were then mechanically refined. No.2 boiler and then No.4 boiler was added in 1950 and 1962, based upon the Boyer developed techniques to burn low grade, high ash, Tasmanian coal. No.3 paper machine was started up in January 1969 bringing the Mill's annual output to approx 200,000 tons. With No.3 machine came the necessary expansion of mill services, pulping and wood handling facilities and finished product warehousing and distribution. Another world first occurred in 1977 with the building of a sulphured (Radial Pine) thermomechanical pulpmill and associated wood processing facility. By mid 1985, output was around 220,000 tpa. Total employment including Mill and forest operations was 1465 full time employees.



New Township on the northern side of New Norfolk

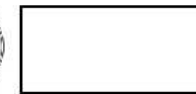
Community & the Mill

The semi-rural location of the Mill and the isolation of its forests made it necessary for the company to provide homes for a high proportion of its employees. In the early 1950's, 325 homes and associated infrastructure were constructed adjacent to the old town of New Norfolk and 119 in Maydena. Recreational and sporting facilities provided by the company and placed under the management of councils organised by the employees added significantly to the community growth and amenity. Over time and with further growth more was added. A company social services fund provided sickness and accident benefits along with pharmaceutical and dental benefits, and educational funds provided additional family support and encouragement. The Australian Newsprint Mills of Boyer was to lead the Derwent Valley into an exciting and prosperous era with the town of New Norfolk at its centre. A major contribution towards stability and sustainability of this industry was the creation of community services in which employer and employee had cooperative interest.



The Modern Mill

The Boyer Mill and its many related activities reached its zenith of expansive growth in the early 1980's. The focus for future major expansion was then directed to an entirely new facility at Albany on the Victorian and New South Wales border. The Boyer priority became one of re-investment and for improved product quality, product diversification and customer service, low cost simpler processes and asset efficiency and for improved environment and safety capability and performance. Since the early 1990's this re-investment and the culture for continuous improvement saw the Mill's production output rise to over 300,000 tonnes per annum, using only two modernised paper machines and with less than 400 full time employees. Exposure to the global newsprint market and the development of community expectation and economic growth presents the need for ongoing development and change. In 2010, this saw the Mill move away from its inaugural eucalypt hardwood base in favour of lower cost and enhanced environmental aspects from softwood plantation fibre. The endeavour to earn the right to be part of the future is as strong today as it was in 1915.



6.8 Interim Interpretation Panel

7. Publicity

7.1 Engineering Tasmania February 2011 newsletter

HERITAGE PAGES

Engineering Heritage Recognition for the Boyer Newsprint Mill



L to R: Rod Bester, General Manager, Boyer Mill; Hon. Peter Underwood, Governor of Tasmania; Bruce Cole, Chair Engineering Heritage Tasmania; Grant Atherton, Tas President EA; Prof Doug Hargreaves, Nat President EA; John Laughler, Strategy & Development Manager Boyer Mill

The Boyer Mill was the first paper mill in the world to make newsprint from hardwood fibre.

About 75 guests attended a ceremony on 17 November at the Boyer Mill on the Derwent River 30 km from Hobart, where the Governor of Tasmania unveiled a marker and interpretation panel, awarding Engineering Heritage National Landmark status to the Boyer Mill.

The Mill produced its first newsprint in 1941, averting a shortage of newsprint during World War II. While international experts had advised that Australian hardwoods would not be suitable for papermaking, due to their inherently short fibres, two young Australian scientists, Lou Benjamin and John Somerville, persevered with their work and established a pilot plant at Kermadie in the Huon Valley. By 1926 this experimental work had produced sheets of paper that could not be distinguished from "real" imported newsprint.

In 1934 at Ocean Falls Mills in British Columbia, Canada, Benjamin and staff carried out a large mill-scale test, using 1000 tons of Tasmanian eucalypt. On arrival some logs were lost when the wharfies tossed them overboard expecting them to float, and some of the pulp from Tasmania was stained with coal dust and rust. However the trial was successful in so far as the problems of using this wood for making newsprint were sufficiently resolved to commence the design of a pulp and paper mill.

The Boyer Mill was established by a consortium of Australian newspaper publishers. The Tasmanian Government supported the project by providing a large timber concession area in the Derwent Valley.

Canadian Engineer Percy Sandwell led the design team and supervised construction. While the paper machine and boilers were imported, 65% of the machinery and equipment was manufactured in Australia. Sadly Percy Sandwell died eight days before the first newsprint was produced.

The Governor outlined the 20 years of research and trials before the project was launched. John Laughler described the construction of the Mill and subsequent developments. National President Doug Hargreaves outlined EA's Heritage Recognition Program and presented the Marker. Mill General Manager Rod Bender accepted the marker. The master of ceremonies was Bruce Cole, chair of Engineer Heritage Tasmania.

The miniature paper making machine used for the trials at Kermadie was on display at the ceremony. It was manufactured in 1908 and loaned by the CSIRO for the occasion. Tours of the Mill were held before the ceremony.

Bruce Cole, FIEAust CPEng(Ret)
Chair, Engineering Heritage Tasmania



L to R: Rod Bester, Len Johnson, Hon. Peter Underwood, Governor of Tasmania and Allan Pearson.

Len and Allan were the original operators of the miniature paper making machine.

Mill milestone honoured by national engineers body

ALICE CLARIDGE

THE ingenuity that went into creating the world's first hardwood paper mill was recognised at a special event last week. Boyer Mill was the recipient of an Engineering Heritage award.

The Heritage Marker award recognises the Mill as a National Landmark.

The award was presented at a function at the Norske Skog site, where guests were addressed by the Governor of Tasmania, Peter Underwood.

"On this site in 1941 ANM was the first newsprint producer in the Southern Hemisphere and the first in the world to make newsprint with ground wood from hardwood," Mr Underwood said.

"Shortages of supply of paper during World War 1 saw a need for Australia to establish its own paper mills, but the short-fibred hardwood was not satisfactory for making paper.

"In 1935 the Tasmanian Government passed legislation to give ANM a guaranteed supply of logs from the Florentine, there were no protests then, and in 1939 work began on the construction of the Boyer Mill."

The Governor noted the irony behind the fact that a year ago to the very day he was at Norske Skog launching the \$50m softwood conversion plant that enabled the Mill to abandon its use of Tasmanian hardwoods and rely exclusively on the use of plantation-grown softwoods to make newsprint.

The award presented to Boyer Mill general manager Rod Bender by the National President of Engineers Australia, Doug Hargreaves.

"It is an honour to receive this award," Mr Bender said.

"The Boyer family is as strong as ever, and we must strive to continue to learn.

"I like to refer to the 'Boyer Factor' — we have an uncanny ability to stay afloat even when the water is



ABOVE: Boyer Mill general manager Rod Bender, left, retired mill manager Len Johnson, Tasmanian Governor Peter Underwood and retired technical manager Alan Pearson celebrate the mill's engineering heritage award.

Picture: ALICE CLARIDGE

rough."

A number of past and present employees were invited to the event.

On display was a miniature paper machine which was remembered particularly well by two retired employees who were guests at the event.

Retired Mill manager, Mr Len Johnson, of Lenah Valley, had with him a photograph of himself and fellow



FLASHBACK: Australian Newsprint Mills (now Norske Skog Boyer) research chemists Alan Pearson, left, and Len Johnson prepare the paper making model in 1954.

mill employee, Alan Pearson with the replica taken in 1954, and one of the rolls of paper used in the display.

"The Mill receiving this award makes all the hard work seem worthwhile," Mr Johnson said.

"All the problems were worth finding solutions for."

Mr Johnson and the other guests went on a guided tour of the mill before the presentation.

"It's amazing how much has changed since I retired in

the 1990s, but it's also amazing how much hasn't changed," he said.

"It was a pleasure to be greeted by people still on the job as we walked through the mill. I have many good memories of my time here."